CLAIMS

1. A method of fabricating a plurality of composite optical assemblies, each of which includes a first optical element and a second optical element, said method comprising the steps of:

providing a first composite substrate that may be divided into a plurality of first optical elements; and

forming on an exposed surface of said first composite substrate a second composite substrate that may be divided into a plurality of second optical elements, said first and second composite substrates providing a composite structure.

2. The method as claimed in claim 1, wherein said method further includes the step of dividing said composite structure into a plurality of composite optical assemblies, each of which includes a first optical element and a second optical element.

3. The method as claimed in claim 2, wherein said first optical element includes an etalon.

4. The method as claimed in claim 2, wherein said first optical element includes an etalon and a transmission amplitude filter.

5. The method as claimed in claim 2, wherein said second optical element includes a beam splitter.

6. The method as claimed in claim 2, wherein said second optical element includes a pair of beam splitters.

7. The method as claimed in claim 1, wherein said method further includes the step of removing a generally wedge-shaped portion of material from said exposed surface of said first composite substrate prior to forming said second composite substrate on said first composite substrate.

8. An optical circuit comprising a plurality of discrete optical elements that are in contact with one another, said optical circuit having been formed, at least in part, by dividing a composite optical structure into a plurality of optical circuits.

9. The optical circuit as claimed in claim 8, wherein said optical circuit includes a first optical element that includes an etalon.

10. The optical circuit as claimed in claim 8, wherein said optical circuit includes a first optical element that includes an etalon and a transmission amplitude filter.

11. The optical circuit as claimed in claim 8, wherein said optical circuit includes a second optical element that includes a beam splitter.

12. The optical circuit as claimed in claim 8, wherein said optical circuit includes a second optical element that includes a pair of beam splitters.

13. The optical circuit as claimed in claim 8, wherein at least two of said discrete optical elements are defined, in part, by a boundary surface joining said two optical elements, and said boundary surface defines a plane that is non-orthogonal to the direction of incidence of an optical signal from one of the two optical elements.

14. The optical circuit as claimed in claim 8, wherein said optical circuit is a frequency locking circuit.

15. A composite optical structure that may be divided into a plurality of optical circuits, each of which includes at least two discrete optical elements that are in contact with one another.

16. A unitary three-dimensional structure that includes an optical circuit that comprises a plurality of optical elements, each of which is in contact with at least one other optical element.

17. A method of fabricating a plurality of composite optical assemblies, each of which includes a first optical element and a second optical element, said method comprising the steps of:

providing a first composite substrate including a first length, a first width and a first thickness, said composite substrate being separable into a plurality of first optical elements along the first length, each of which optical element having an optical path through the first thickness; and

forming on an exposed surface of said first composite substrate a second composite substrate including a second length that is equal to said first length, said second composite substrate being separable into a plurality of second optical elements along said second length, said first and second composite substrates providing a composite structure; and

dicing the composite structure along said first and second lengths to form a plurality of composite optical elements.

18. The method as claimed in claim 17, wherein said second composite substrate includes a

second width, and has a second optical path through at least one face of said second thickness and an optical path through at least one face of said second width.

19. The method as claimed in claim 18, wherein a plurality of independent optical devices are attached to said composite substrate along at least one of said first and second lengths, widths and thicknesses.

20. A method of fabricating a plurality of composite optical assemblies, each of which includes a first optical element and a second optical element, said method comprising the steps of:

providing a first composite substrate that may be divided into a plurality of first optical elements along a first length, each first optical element having an optical path through a first thickeness thereof; and

providing a second composite substrate;

forming on an exposed surface of said first composite substrate a second composite substrate that may be divided into a plurality of second optical elements along a second thereof, said first and second composite substrates providing a composite structure.

21. The method as claimed in claim 20, wherein at least one optical path of the composite structure is tested for accuracy during manufacture.

22. The method as claimed in claim 21, wherein a plurality of optical path locations are tested for accuracy during manufacture and the results are extrapolated to evaluate untested portions.

23. The method of claim 1 where the forming of a composite structure encapsulates an optical path.